

REMARKS

Claims 1-3 were rejected under 35 USC §103(a) as being obvious over JP 2001-118711 in view of JP 05-299872 and JP 2002-084090.

Claim 1 recites, among other things, “wherein **the magnetic layer contains a nonmagnetic austenite stainless steel powder** in an amount in the range of 30 to 50 volume percent relative to a Mn-Zn ferrite powder, the total volume content of the ferrite powder and the nonmagnetic austenite stainless steel powder in the magnetic layer is in the range of 10% to 40%, the thickness of the magnetic layer is in the range of 1.0 to 4.0 mm, and the electric-wave-absorbing building material has an electric wave absorption characteristic in which the center frequency of the electric waves absorbed lies in the range of 1 to 8 GHz and the amount of electric wave absorption is 20 dB or more in a 2.45 GHz frequency band.”

Nothing in JP 2001-118711 and JP 05-299872 indicates that the magnetic material includes nonmagnetic austenite stainless steel powder.

JP 2002-084090 includes a description “an electromagnetic-wave-shielding coating composition comprising (A) silicone resin, (B) stainless steel powder and/or ferrite powder.” It is well known that there are two types of stainless steel: (a) ferritic stainless steel, which is magnetic, and (b) austenitic stainless steel, which is not magnetic. Although JP 2002-084090 does not explain what the “stainless steel” means, the stainless steel must be magnetic because it is interchangeable with ferrite powder. Otherwise, the phrase “(B) stainless steel powder and/or ferrite powder” does not make sense. Also, it is well known that ferritic stainless steels such as SUS430 powder are used for electric-wave-absorbing building material. Therefore, it is clear for a person of ordinary skill in the art that, in JP 2002-084090, the “stainless steel” means ferritic stainless steel, which is magnetic.

In contrast, the present invention uses “nonmagnetic austenite stainless steel powder” instead of magnetic ferritic stainless steel powder. In the process of conducting extensive experiments on the mixing ratio of a ferrite powder, the thickness of a magnetic layer, and the use of other magnetic powder or a conductive powder, the present inventor has found that a woody electric wave absorber which has a better electric wave absorption characteristic in the wireless LAN and ISM frequency band and in which a required absorbing ability can be easily adjusted in a required band can be obtained by using a nonmagnetic stainless steel powder in combination with a ferrite powder.

When magnetic woody materials are applied to electric wave absorption, magnetic loss is the important parameter. Woody materials themselves are dielectric substances and transmit electric waves. When electric waves composed of an electric field and a magnetic field hit a woody material produced by sandwiching a magnetic layer between facing woody plates, since the magnetic layer has a magnetic loss characteristic, the magnetic field is converted into heat, and is absorbed. As the magnetic material constituting such a magnetic woody material, ferrite is preferred, but ferrite is a low-loss material. Nonmagnetic austenitic stainless steels are conductive materials. However, unlike soft magnetic stainless steels, which are usually used as electric wave absorbers, nonmagnetic stainless steels are considered to have the same magnetic characteristics as air space. Therefore, it is believed that the distance between particles of the ferrite powder is increased, and consequently, the demagnetizing field is increased to decrease the real part μ' of the complex permeability. Furthermore, a nonmagnetic stainless steel has an electric conductivity (1.3×10^4 [$\Omega \cdot m$]) lower than that of other metals having a high electric conductivity, for example, the electric conductivity of copper (5.8×10^7 [$\Omega \cdot m$]), and thus an increase in the imaginary part μ'' of the complex permeability does not occur. However, the electric wave absorption characteristic that cannot be obtained using only a ferrite powder can be

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obtained by combining a nonmagnetic austenitic stainless steel powder. In addition, since copper is easily oxidized, copper is not suitably used together with woody materials having hygroscopicity. In contrast, SUS 304 stainless steel has excellent corrosion resistance.

For at least these reasons, claim 1 patentably distinguish over JP 2001-118711, JP 05-299872 and JP 2002-084090. Claims 2 and 3, depending from claim 1, also patentably distinguish over the cited references for at least the same reasons.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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